

## The One True Dan Part 2

*Filename: truedan*

The One True Dan contest continues. As everyone knows Danny destroyed Sawyer in bowling, so Sawyer fought back by challenging Danny to a dance off. The dance off will be structured as a moonwalk race between Sawyer and Danny. As everyone knows Danny can't moonwalk nearly as efficiently as Sawyer. As a matter of fact Sawyer can moonwalk twice as fast as Danny. Obviously Danny wants to have a chance of winning so he is going to start at a different place than Sawyer. As such, the dance off will be structured by having Sawyer and Danny start at potentially different points on UCF's campus and dancing until they get to the lab. Obviously since it is a competition, Sawyer and Danny will take the most efficient route to get to the lab. Depending on where Sawyer and Danny start on campus, who will win the dance off?

### **The Problem**

Given a graph that describes UCF's campus and where Danny and Sawyer start, print out who would win the dance off. UCF's campus will be described as a graph with undirected weighted edges. The node with index 1 (1-based) will represent the lab that Sawyer and Danny are dancing to. In the case that Sawyer and Danny reach the lab at the same time Sawyer wins the dance off by default because his moonwalk has much more style. If one person can reach the lab while the other can not, they automatically win. Finally, if neither can reach the lab, Sawyer wins by default, since he's cooler than Danny.

### **The Input**

The first number in the input will be the number of UCF's campuses that Sawyer and Danny will have dance offs at. Each graph will start with 4 numbers:  $n$  ( $1 \leq n \leq 5000$ ) the number of nodes in the graph,  $m$  ( $0 \leq m \leq 20000$ ) the number of edges in the graph, and  $D$  and  $S$  ( $1 \leq D, S \leq n$ ) which describe the 1-based index starting locations of Danny and Sawyer, respectively. There will then be  $m$  lines, each describing an edge in the graph. Each edge will be described with 3 space separated integers  $a$ ,  $b$ , and  $w$ , where  $a$  and  $b$  describe the end points of the edge and  $w$  describes the distance between the two end points with  $1 \leq a, b \leq n, 1 \leq w \leq 10000$ .

### **The Output**

For each of UCF's campuses and set of starting positions, output the winner of the race. If Sawyer wins, print, "Sawyer's style is undeniable!" on a line by itself. Otherwise, print, "I can't believe Danny won!" on a line by itself.

### **Sample Input**

```
2
3 3 3 2
1 2 4
1 3 2
2 3 7
3 3 3 2
1 2 4
1 3 1
2 3 7
```

### **Sample Output**

```
Sawyer's style is undeniable!
I can't believe Danny won!
```